

Home

The August Eye-Edits Publication

Computing WEEKLY

No. 32
Oct 11-17, 1983

33p

SOFTWARE REVIEWS FOR:

Commodore 64,
Spectrum, Atari,
TI-99/4A, Oric,
BBC, Dragon

GREAT GAMES TO TYPE IN FOR:

VIC-20, Atari,
Spectrum,
TI-99/4A, ZX81
and Dragon

FIRST REVIEW:

Our verdict
on Sinclair's
Interface 2 for
the Spectrum

THE BIG SHOW: Read the first full report

PLUS:
U.S. scene software
charts for VIC-20, Spectrum, ZX81
and Dragon, your letters...
and much more



Oric changes on the way

Oric is planning changes to its computers to add new BASIC commands and improve reliability.

Two months since it first came on the scene, Oric will make concrete handling and the T4 is considered more reliable. Adding new commands include VERIFY and MERGE.

Managing director Barry Man once would only say no decision had been made on when or whether to introduce a

Home Computing Weekly has been told, however, that the company was only waiting until enough funds had been built up.

Our source added: "Oric is keeping quiet about the whole thing until when they introduce

continued on page 1

Magazines go into micros

Good Home-keeping magazine is putting its pages to a new range of, early learning programs, being launched by Ebury Software.

First on the range are six programs aimed at three to six year olds, and running on the BBC B, Spectrum, Dragon and Commodore 64. They will cost £12.95.

The launch marks the launch in a series of moves by major magazine publishers to the children's market.

Ebury Software is an offshoot of book publisher Ebury Press.

continued on page 2



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ENTERTAINMENT WEEKLY

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Briefly

Formal Software has brought out a Commodore 64 game that few can play. Called *Dragon Daylight*, it's a version of the ancient game where you take part in a duel between two World War I air aces, and features a wargame-style screen.

Revised Software, 26 Church Lane, Potters Bar, Herts. EN8 3JY

□ □ □

Seven Seas Publishing says its *Great* list is one of the largest subscription mailing on a 280 system. Now available for the Macintosh range, the company says it mails at about 200 lines a second at 480Hz. It has a full screen editor which checks for the syntax and label definitions errors as they are typed in and generates twin assembled source code. Tape and manual cost £9.95 including post.

Seven Seas Publishing, 13 Chancery Ave, London NW1 3AU

□ □ □

There's EMI's October software releases in cassette cartridges for the VIC20 and two for the Atari 400/500. For the VIC, Mary's Tank Commander and Mary's Maths, which will sell for around £19.95. And for the Atari, General Motors and Killer Chick will cost around £14.95.

There's EMI, Upper Saint Martin's Lane, London WC2

□ □ □

EMI's Power Cleaner computer-made plug is claimed to protect your computer equipment from 99% of almost power surges, and to reduce the interference from household appliances such as vacuum cleaners. Costing £10, it can be fitted instead of an ordinary mains plug.

It's R. Temple Field, Harrow, Essex CM9 2ND

□ □ □

Midway is about to launch a bumper batch of 14 new action games for the Spectrum. They will include wargames, a graphics adventure called *SN3 Assault*, and some family games including *Chess* and *KoalaKor*, a computer version of *Shove Halpenny*. The 16K games will cost £5.95 and the 48K games £6.95.

Midway, 1 Drummer Cottage, Ludlow Road, Brockwell, S.W.16 7PG

Home Computing WEEKLY

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Why is he looking so pleased?
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pages 18 and 11



Just a few weeks after the
Microdrive, Macintosh launches the
Spectrum laserdisc 2 Our de-
tailed review is on page 42



Tansoft: What the man behind
the name on page 18

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From front page



Peter Harding, Chris's sales boss

a they have got enough stock to run demand. Basically it's a holding operation."

Mr. Molyneux said two of their software houses had seen a slump because Chris was withdrawing to ensure ongoing software would not be affected.

He said: "We don't want to give anyone any juicy snippets like Sir Chris did."

This was a reference to some short Spectrums which offered a few machine code programs only,

using an unpublished format of the computer.

Chris's sales boss Peter Harding said the company would be launching a new computer in late spring. It would have a representative keyboard and 64K of RAM, 17K, variable or high-resolution mode and 47K in standard mode.

He said: "It's going to be the Electronic Commodore 64 killer."

Chris's modern, costing £20-£25, was mostly finished and its first day three would follow in about £200.

He believes that, following games, the next phase of computer sales in large numbers would be for users like home banking, maintenance, mail, wordprocessing and teleworking. Harding has now taken over Chris's mail order operation.

Chris has been voted best home computer by a panel of 35 journalists in France — 35,000 have been sold there. The Spectrum made an odd job of work on the French TV system, the Chris does not. More than 70 per cent of Chris sales are overseas.

Chris Products International, Cowen Park, Loughlin Rd, Alton, Northants NN1 2SR

Bungled burglary

The bad news is that teleconcepts was bungled the other way — the good news is that the burglars didn't know what they were doing.

Manager Neil Hanger said: "They came in through an upstairs window. They moved our expensive software development system in and packed up a disk, Spectrum, leaving behind the power supply."

"The police think they probably took it, but they can't have been removing data or they'd have known what to take. If they'd had any sense, they'd have taken some copies of our latest programs, Home Cuts."

Teleconcepts has now called in the police's experts to make sure they don't have a second break-in.

Meanwhile, if you should come across a disk, Serial 1 Spectrum, serial number 804-100004, contact a power supply, the Liverpool Hill police would like to hear from you.

"The police think they were probably kids, but they can't

have been completing jobs if they'd have known what to take. If they'd had any sense, they'd have taken some copies of our latest program, Home Cuts."

Seeing red and green

Silly Software is making a similar debut with a design program that has what is probably the first ever 3D packaging.

Feeling as many colours as a box of those red and green pills, which means how many remember from such class? They Came From Outer Space. For the glasses on, and you should be able to see the outside world in three dimensions.

The program itself is called Mirror Package.

First you have to tell your script — and then the fun really begins.

Home Producer has music, graphics, and according to Silly Software, "a theoretical 3D box in levels of play."

All this for only £9.95. Silly Software, 60 Thornhill, Mount Road, Epping, Essex

Micro project wins award

A computerized golf driving system based around the BBC micro has won 10-year-old Richard Maclean a prize in this year's Young Engineer for Britain competition.

At sixteen (the 14-17 year age group), Richard received £1000 to help him develop his computer being used at school.

Richard, who is a student at Convent Comprehensive, Letchworth, said the project had won him a

part of the Oxford Technology Centre.

He said: "Because the project was going to last a year, I wanted to do something that interested me. My two hobbies are golf and computers, so I thought of an idea that brought them both together. "I was really thrilled and surprised to win, because the other projects were so good."

Using a network of sensors linked up to the BBC micro, Richard's system takes the flight of a golf ball from the tee as a project aim, and then calculates how far the ball went, the angle of the shot and the ball's overall velocity.

He wrote the entire control program himself, and details of the design Teachers helped him to construct the special sensors and computer hardware.

How far he progressed the idea of using a computer to calculate a golf ball's trajectory can work, Richard hopes that a commercial company will develop his system further so that it could be used in golf training.

Richard himself will be kept busy too, from now on doing five A-levels — in maths, further maths, physics, chemistry and general studies.

Eventually he hopes to enter an elite computing, or become a pilot.

From front page

and Good Housekeeping is part of the National Magazine Company which also publishes Cosmopolitan, Company, Harpers & Queen and Sic.

Roger Barrett, who is publishing director of Ebony Software as well as a director of National Magazine said: "There are many microcomputers in homes in the UK than anywhere else in the world."

"We believe that there is a big demand for quality software, and that's why the National Magazine Company has decided to move into the software market."

"Later preparations will cover a wide range of subjects, and will be linked to our major publications."

National Magazine Company, 25 Abchurch Lane, London EC4N 3JF

You could be on our pages

We welcome program articles and tips from our readers.

PROGRAMS should, if possible, be computer printed to a width of 80 characters (use a new ribbon and/or set on cassette). Check carefully that they are bug-free. Include details of what your program does, how it works, variables you have used and hints on conversion.

ARTICLES on using home computers should be no longer than 2,000 words. Don't worry about your writing ability — just try to keep to the style in HCM. Articles most likely to be published will help our readers make better use of their micro by giving useful ideas, possibly with programming examples. We will convert any sketched illustrations into finished artwork.

TIPS are short articles, and brief programming routines which we can put together with others. Your hints can aid other computer users.

Competitive rates are paid.

Keep a copy of your submissions and include an SAE if you want them returned. Label everything clearly and give a daytime and home phone number if you can.

Paul Upstart, Home Computing Weekly, 145 Charing Cross Road, London WC2N 6DS

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* For full details of these and other ideas, please contact either:

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and you can do as high left, and all that's left is change! Price: £7.75

MUSIC MACHINE Play around with Tapes and Sound. This program uses the words and sound you wish to use in your music. A whole range of music can be saved, and used in your own programs. Price: £7.75

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Abstract

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Monday, October 1, 2018

Age Group	Percentage (%)
18-24	~15%
25-34	~25%
35-44	~35%
45-54	~20%
55-64	~10%
65+	~5%
Other	~1%

1000

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are available with
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Melbourne House

New games, new add-ons at the big show

Turner Paul Haiman, who started computing two years ago with a Z801, made his debut as **Turner** on

He showed his first — and, so far, only — product, a shoe-on-up game called Wild Wayz. Here, priced at \$3.99 for the ABC Newsday.

Ken Paul, life and author of *Spectrum Machine Code Made Easy*, plans to bring out a new issue every three weeks.

Spokane company's leadership showed its range of options for flexible computers, all housed in sleeky, sleek boxes.

They include typewriter-style keyboards for the Spectrum and ZX81 at £40.95 and £39.95, RAMblers and interfaces. The Domestic Controller (£87.75) for the Spectrum has four outputs and inputs to control stereo, lights, heating and so on.

They now speak with clarity and grace to the nation.

Karen's Microcassette, in ZIP 95 for the Spectrum with a free tape, works through the TV speaker, vocates all the boys — so B says 'be', ENTER says 'enter' — and uses allophones. This means 'hello' is typed as 'he(l)llo' — innovation is caused by mixing upper and lowercase letters.

Type 'o' Talk, priced at \$17.95 by Nermal, connects to the RS-132 or RS-422 serial port of any computer, although it was demonstrated as a *file*. It speaks any text using ASCII characters and delay, reflection, and volume can be controlled.

Arvink is a Taurus 28.00A, speech-type, 280 processor, an 8000000 and 28 of 1.4M.

Mag-Byte showed Old Father Time, a graphic advertisement for the 1991 MAC disk and soon.

And **Stubble Ben** had a table football game for the Commodore 64, written by Nick Strunge, 34, author of its pool program—It's called **Nick Off**, priced at \$3.95 and runs two quarters.

Homecoming/Cole 1994—Angeles and
from America by Audiogenic and
should be here on these walls.
Four games for the Commodore
64 and one for the VIC. 20—
called "Friday" — are after the last
game.

Special add-on specialist
Business has produced Forson II
(230 HP), a unit for the specialist
with 30-hp output to drive
valves.

With 28 more on his list, he does mean. Magilla has programs for a total of 17 foster children at a

Once more HCW brings you a comprehensive show report. Paul Liptrot talked to the exhibitors and examined the new products at the PCW show.

standing movements like the Elbow
and the Arm movements, etc.

Richard Paul Turner's Reception Mikes had four non-Championship 64 programs, with another this week, all proved as 17. There is also one each for the VIC-20 and Lynx and his first, Cuddly, Cabern, for the Spectrum. Price: £7.

Publishers were in the show in strength. Interface has 44 new titles, John Wiley showed a new range and Hutchinson had four new software titles for education.

Millwright Home Landscaping
High standards. Very friendly.
Real-time status. Designers —
check the above and below.

on average to the one side of 274.99
for the Spectrum, for the largest
part of the month.

It was to be called the *Common Development*, world. Quilley's brought out a program with the same name, and said:

Garry Kester, who painted both *Barbaric* and its up *Phoenix*, said his two-pack games gave top value at \$9.99. Each pack is the size of a video cassette and contains two tapes, an arcade game and an adventure. The arcade game has to be cracked before you can play the adventure. The first, *Death Mines of Sarn*, for the Dragon, is out now and more follow in the next few weeks for the del. 900-260 and Novus.com.

MicroStation is a new \$150 product from Redwood Computer Cases designed to hold a EXBI or Spectrum, along with cassette recorder, Microdrive and mouse.

Regency TV says its modified Grounding sets give high definition for computers, as well as switching back easily to programme viewing. A 14 in colour TV costs £281 or your own TV can be converted for £36, plus no vat charge.

Virgin is adding 12 new models next month, bringing its total to 38. The new colors are for the Spectrum, Commodore 64 and TRS-80.

Aspen Computers played the Broadway concert through two BBC studios — each with three musical voices — to demonstrate its Exnet network. The Exnet was also on show.

A console for the One holds the computer along with a keyboard, cassette recorder, print and cassette work space for a TV. It's by Expert Computers (Burlington).

Crystal's three new games for the Spectrum include a tank for the called *Blammy's*, *Kovving* (16K) and *Asting* also brought out chess rules, two for the 64, and one for the VIC 20, plus 16K, called *Blammy's*, similar to the old version (CT 10).

Microdeal brought out the second and third in its Dragon series featuring the Clithorn character (see page 4).

Football Academy, at \$100 (5 for the club). From *Recess*, two different modes from which to choose, "Hoppers" and control over the ball from spring

Milena Aid's French Abroad
for the BNC, UT 83 teacher and
L210 on one side of the tape and
speaks the language on the other
side. It includes an exchange rate
section and sample letters. Other
languages are in follow.

As well as bringing out new titles, Abrams preserved Super Carts/Troops, a Commodore 64 arcade game box (E150), an enhanced version of its VIC-20 game Also for the 64 Home Manager page E1150, doc E15 and a spreadsheet called Abrams: Game E11, doc E2500.

Also from Melbourne House live new hosts — including one on the Spectrum Microdrive — and The Hobbit for the BBC and Commodore 64, with the Disc to follow soon from Tansil. And the company says its Mosaic drive for the Spectrum will soon be available for the Commodore 64. (Discs and VHS 20.00 each.)



Specialty Spectrum — **Walter Chermans**, a secretary at Melchior-Horned Industries, will buy company 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835

SHOW REPORT

from Computer Bridge (£8.95) in the UK and November.

Lucasfilm's Art feature showed its latest VIC-20 game, *Manborg's Llamas* (suitable at the Edge of Time). The game, introducing us to the Vic 20, is an introduction to the VIC 20's standard 10K. And there was a demonstration of *Survival of the Mutant Combs*, for the Commodore 64 and planned for December release.

Tuttle, whose FDC Keyboard is now available for the Spectrum, ZX81, Cric and Super Ace, has the latest 2000 computer on sale for £29.99 (November 1). The company's Ace track has speakers, amplifier and attack controller at one end for the Spectrum (£29.95).

Two games for the Sharp 930 were launched by **Kuma**.

From Music comes a 10K, graphics adventure — a *Lord of the Rings* game — called *Paragon's Diary*. It costs £7.95 and runs on the Dragon. *Shards* had three more new Dragon titles and one for the 8080, to mark launch.

CDS, with new titles for the Spectrum and Cric later this month, previewed the first of its educational range for the 64K Spectrum, language programs to help with French and German at £5.95. Maths follows next month.

A 22-year-old RAF technician, **Corporal Chris Lancaster**, wrote *Smuggler's* latest VIC-20 game, *Merchandise* (£5.95). The company's Australian title is being launched shortly for the Commodore 64.

Softies added to its range for the Cric and Spectrum and plans releases for the Spectrum and the Commodore 64. Its new IS-Computer and FP Compiler, both for the Spectrum, are £9.95 and £19.95 respectively.

The first set of a range of educational programs — for the 64K Spectrum and 64 — is to be launched by **Peter Software Cric** early next year. Managing director **Robyn Robinson** said they would be for school-year-olds with the emphasis on education.

One software specialist **Timothy** brought out two new games, including *Sea Spies* (£2.95) as which you have to chase a cat and develop a. *Umi Chameleon* Timothy is selling the 16K, Cric-based order at a cut price £7.95.

Dragon said that there were 28 new software titles for its computer and that the 64K model would be out as mid-November. **Microcomputer Resources** has a Pascal interface for the Dragon 32 to display games and files, or which will be a. A Pascal is not yet available.

New titles from **Softpoint** for the BBC include a Christmas game called *Bombardier* (£9.95).

BBC Publications and **Amal** showed their new titles, including *Amal's new game card*, *Pole Position* (£29.95).

Where to find them

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TANSOFT

Unit 1 & 2, Techno Park, Newmarket Road, Cambridge

Anyone for tennis? Just type in and serve...

Step out onto the Centre Court with any tennis game for the Dragon.

Score for both players are displayed and the first to reach 15 points is the winner.

There are chance of two speeds, fast and normal, obtained by PITCH command, or remember to turn the computer off to clear the memory.

Each time a point is scored the game halts until you press the right joystick button to serve.

To make the game more challenging, you could add a RND command for the ball to serve outside or have balls of different sizes. And the number of games needed to win could be increased for a longer game.

Notes on conversion

Dragon BASIC is close to the Microsoft standard so there is very little to convert for other computers.

Your Joystick is the racquet when you play this tennis game written for the Dragon by 14-year-old John Williams



```

310 P=INT(RND(255)+1)*PI/36:G=PI/364:THIN=2070:AL-
4:ARE=500
320 CLS:PRINT"RIGHT PLAYER NOW"::PI=PI/36:SLASH=
40:GOON=0
330 PRINT"1-0, 1-0"::GOTO100:IF 1:PRINT"1-1"
340 IF 1:PRINT"1-2"::GOTO100:IF 2:PRINT"2-0"
350 IF 2:PRINT"2-1"::GOTO100:IF 3:PRINT"3-0"
360 CLS:PRINT"LEFT PLAYER NOW"::PI=PI/36:SLASH=
40:GOON=0
370 PRINT"1-0, 1-0"::GOTO100:IF 1:PRINT"1-1"
380 IF 1:PRINT"1-2"::GOTO100:IF 2:PRINT"2-0"
390 IF 2:PRINT"2-1"::GOTO100:IF 3:PRINT"3-0"
400 IF 3:PRINT"3-1"::GOTO100:IF 4:PRINT"4-0"
410 IF 4:PRINT"4-1"::GOTO100:IF 5:PRINT"5-0"
420 IF 5:PRINT"5-1"::GOTO100:IF 6:PRINT"6-0"
430 IF 6:PRINT"6-1"::GOTO100:IF 7:PRINT"7-0"
440 IF 7:PRINT"7-1"::GOTO100:IF 8:PRINT"8-0"
450 IF 8:PRINT"8-1"::GOTO100:IF 9:PRINT"9-0"
460 IF 9:PRINT"9-1"::GOTO100:IF 10:PRINT"10-0"
470 IF 10:PRINT"10-1"::GOTO100:IF 11:PRINT"11-0"
480 IF 11:PRINT"11-1"::GOTO100:IF 12:PRINT"12-0"
490 IF 12:PRINT"12-1"::GOTO100:IF 13:PRINT"13-0"
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510 IF 14:PRINT"14-1"::GOTO100:IF 15:PRINT"15-0"
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Tansoft: forging its own identity

Tansoft and Oric grew out of the same company, Tangerine, and still work closely together. But as managing director Paul Kaufman explained to Candice Goodwin, the two are becoming increasingly independent

Throughout its short life, the Oric has been named by constant comparisons with the Spectrum. So it's inevitable that Tansoft should find itself labelled as Oric's answer to Proton, the software house that has worked closely with Sinclair.

Though Tansoft and Oric Proton are two completely separate companies, Oric Products used to distribute all Tansoft's programs, like Sinclair distributes Proton's. Tansoft wrote the demo program that got out with every Oric machine, as Proton wrote the Higgins tape for the Spectrum.

Paul Kaufman, Tansoft's managing director, looks happy for such comparisons to be made and, freely admits, the Tansoft is trying to fulfill Proton's role in the Oric market. Indeed, the idea for some of its forthcoming software releases came from Proton's software for the Spectrum.

But it should be said that Tansoft and Oric are starting to assert their separate identities. Tansoft

down the power for the rats to eat, and the chosen American buildup and kill the rats. There are able monkeys lurking in the tangle. It's a really good game, with lots of sound effects.

Seaside, lovely. Paul is also keen to get some adventure games. "I think that's getting more popular, especially with older people." One result of that is that Tansoft is now releasing Oric versions of the best-selling home-run adventure games like Hobbit, specially written for the company by Melbourne House.

Tansoft has also found a lot of success in advertising, from the Australian market. "We keep coming to write an adventure game with languages in it, just for them," said Paul.

"We'd also like to go into the educational market, firstly when we understand a better ourselves and secondly when we have some good programs to sell." Tansoft's first educational offering, scheduled out in October, are a series of language-teaching programs developed by a doctor of psychology at Swinburne university.

Though it won't be ready for the autumn, one of Tansoft's programmers is also working on a 3D graphics program called Oric-CAD, which according to Paul will be "our answer to Proton's WU 3D".

A lot of Tansoft's early programs were written by Paul, who also helped to develop the Oric itself — by working on the second commands which are one of the machine's strong points to handle with the Spectrum. But the rapid expansion of Tansoft's business through the increasing demand for Oric software ("just this month we've sold 100,000 programs") leaves him little time for programming now.

Tansoft uses about five freelance programmers, and all of whom are teenage, though Paul admits to poaching 17-year-old Andy Oron from Queensland and 17-year-old John Macdonald from NSW.

Occasionally the company also uses industrial software, but as Paul says, "We get at least half a dozen tapes a day, most of which are rubbish or unusable. We get a lot of copies of Massmind and Causapac and Spec Invaders. Some people even type in designs from magazines and say they're their own — I wouldn't mind at all, but sometimes they're from our own machines."

"But we're now turning down a lot of software we might have accepted a few months ago. We're trying to clear out our mind-bugs all the time. If people buy software and it's no good, they won't come back again."



Cattle Barrett (left) and Paul Kaufman with Carolee Greenfield, Tansoft's graphic designer

is increasingly taking over the distribution of its software, leaving Oric to concentrate on hardware. And according to Paul, there's no objection to Oric selling Tansoft software to do.

"There has to be some guidelines. One useful suggestion about the kind of software it would like to see, for example, they've just released a printer, and they approached us to do a driver tape for that."

"And we always have to take opinion on our software, though we don't always take any notice — after all, they're hardware, not software specialists. For example, Oric thought our flight game was terrible because it wasn't like Proton's. But it's our own idea."

Tansoft originally grew out of the Tansoft Catalogue magazine for Tangerine machines and now supply Paul. Tangerine, of course, was the company that first developed the Oric.

The magazine itself was started

as part of the Tangerine customer service department which Paul joined the company to set up.

"Proton to them", he said, "I was a programmer at that for three years — I got bought a television set and a house from Tangerine at a holiday. One day I went to a computer fair and met someone from Tangerine — I sold them their customer support was appalling. A few weeks later, they rang me up and offered me a job."

The first program Tansoft produced were for the Microbit. Then when the Oric came out, they started to concentrate on Oric software, as well as bringing out Oric Oric magazine which now incorporates the old Tansoft Catalogue.

When Tansoft separated from Tangerine and became a company in its own right, there was an occasion to decide who the decision should be. "We are very Oric-oriented", said Paul. He

became one of the directors, and the other is Cattle Barrett, who is in charge of administration and dealer contacts.

The company currently has eight sites available. By the end of the year, Paul hopes to have 15. Ultimately, he aims to sell 40 per cent games, 40 per cent utility and languages, and 20 per cent business software.

A whole batch of new releases is planned for October. Among them are OricCAD, a spreadsheet program, Asterix, a word processor, a BASIC compiler and a version of the Pascal language. Among the games is Star Sprint, which could be one of the more serious pieces of software yet developed.

Says Paul: "You have a little man down a mine, and he has to kill rats by having them with a hammer or poisoning them with an alcohol of poison gas."

"But there's also a lot of chess

PISTON PAPER

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900 DIM A(256), B(256), C(256), D(256), E(256), F(256), G(256), H(256), I(256), J(256), K(256), L(256), M(256), N(256), O(256), P(256), Q(256), R(256), S(256), T(256), U(256), V(256), W(256), X(256), Y(256), Z(256)
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1000 NEXT A
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1110 FOR A=0 TO 255: B(A)=96: C(A)=97: D(A)=98: E(A)=99: F(A)=100: G(A)=101: H(A)=102: I(A)=103: J(A)=104: K(A)=105: L(A)=106: M(A)=107: N(A)=108: O(A)=109: P(A)=110: Q(A)=111: R(A)=112: S(A)=113: T(A)=114: U(A)=115: V(A)=116: W(A)=117: X(A)=118: Y(A)=119: Z(A)=120
1120 NEXT A
1130 FOR A=0 TO 255: B(A)=106: C(A)=107: D(A)=108: E(A)=109: F(A)=110: G(A)=111: H(A)=112: I(A)=113: J(A)=114: K(A)=115: L(A)=116: M(A)=117: N(A)=118: O(A)=119: P(A)=120: Q(A)=121: R(A)=122: S(A)=123: T(A)=124: U(A)=125: V(A)=126: W(A)=127: X(A)=128: Y(A)=129: Z(A)=130
1140 NEXT A
1150 FOR A=0 TO 255: B(A)=116: C(A)=117: D(A)=118: E(A)=119: F(A)=120: G(A)=121: H(A)=122: I(A)=123: J(A)=124: K(A)=125: L(A)=126: M(A)=127: N(A)=128: O(A)=129: P(A)=130: Q(A)=131: R(A)=132: S(A)=133: T(A)=134: U(A)=135: V(A)=136: W(A)=137: X(A)=138: Y(A)=139: Z(A)=140
1160 NEXT A
1170 FOR A=0 TO 255: B(A)=126: C(A)=127: D(A)=128: E(A)=129: F(A)=130: G(A)=131: H(A)=132: I(A)=133: J(A)=134: K(A)=135: L(A)=136: M(A)=137: N(A)=138: O(A)=139: P(A)=140: Q(A)=141: R(A)=142: S(A)=143: T(A)=144: U(A)=145: V(A)=146: W(A)=147: X(A)=148: Y(A)=149: Z(A)=150
1180 NEXT A
1190 FOR A=0 TO 255: B(A)=136: C(A)=137: D(A)=138: E(A)=139: F(A)=140: G(A)=141: H(A)=142: I(A)=143: J(A)=144: K(A)=145: L(A)=146: M(A)=147: N(A)=148: O(A)=149: P(A)=150: Q(A)=151: R(A)=152: S(A)=153: T(A)=154: U(A)=155: V(A)=156: W(A)=157: X(A)=158: Y(A)=159: Z(A)=160
1200 NEXT A
1210 FOR A=0 TO 255: B(A)=146: C(A)=147: D(A)=148: E(A)=149: F(A)=150: G(A)=151: H(A)=152: I(A)=153: J(A)=154: K(A)=155: L(A)=156: M(A)=157: N(A)=158: O(A)=159: P(A)=160: Q(A)=161: R(A)=162: S(A)=163: T(A)=164: U(A)=165: V(A)=166: W(A)=167: X(A)=168: Y(A)=169: Z(A)=170
1220 NEXT A
1230 FOR A=0 TO 255: B(A)=156: C(A)=157: D(A)=158: E(A)=159: F(A)=160: G(A)=161: H(A)=162: I(A)=163: J(A)=164: K(A)=165: L(A)=166: M(A)=167: N(A)=168: O(A)=169: P(A)=170: Q(A)=171: R(A)=172: S(A)=173: T(A)=174: U(A)=175: V(A)=176: W(A)=177: X(A)=178: Y(A)=179: Z(A)=180
1240 NEXT A
1250 FOR A=0 TO 255: B(A)=166: C(A)=167: D(A)=168: E(A)=169: F(A)=170: G(A)=171: H(A)=172: I(A)=173: J(A)=174: K(A)=175: L(A)=176: M(A)=177: N(A)=178: O(A)=179: P(A)=180: Q(A)=181: R(A)=182: S(A)=183: T(A)=184: U(A)=185: V(A)=186: W(A)=187: X(A)=188: Y(A)=189: Z(A)=190
1260 NEXT A
1270 FOR A=0 TO 255: B(A)=176: C(A)=177: D(A)=178: E(A)=179: F(A)=180: G(A)=181: H(A)=182: I(A)=183: J(A)=184: K(A)=185: L(A)=186: M(A)=187: N(A)=188: O(A)=189: P(A)=190: Q(A)=191: R(A)=192: S(A)=193: T(A)=194: U(A)=195: V(A)=196: W(A)=197: X(A)=198: Y(A)=199: Z(A)=200
1280 NEXT A
1290 FOR A=0 TO 255: B(A)=186: C(A)=187: D(A)=188: E(A)=189: F(A)=190: G(A)=191: H(A)=192: I(A)=193: J(A)=194: K(A)=195: L(A)=196: M(A)=197: N(A)=198: O(A)=199: P(A)=200: Q(A)=201: R(A)=202: S(A)=203: T(A)=204: U(A)=205: V(A)=206: W(A)=207: X(A)=208: Y(A)=209: Z(A)=210
1300 NEXT A
1310 FOR A=0 TO 255: B(A)=196: C(A)=197: D(A)=198: E(A)=199: F(A)=200: G(A)=201: H(A)=202: I(A)=203: J(A)=204: K(A)=205: L(A)=206: M(A)=207: N(A)=208: O(A)=209: P(A)=210: Q(A)=211: R(A)=212: S(A)=213: T(A)=214: U(A)=215: V(A)=216: W(A)=217: X(A)=218: Y(A)=219: Z(A)=220
1320 NEXT A
1330 FOR A=0 TO 255: B(A)=206: C(A)=207: D(A)=208: E(A)=209: F(A)=210: G(A)=211: H(A)=212: I(A)=213: J(A)=214: K(A)=215: L(A)=216: M(A)=217: N(A)=
```

[illegible]

```

410 LET X1=X1+1:CB(X1+1,Y1+1)+1
420 WRTX1-1:CB(X1-1,Y1+1)+1 AND
X1=X1
430 LET X2=X2+1:CB(X2+1,Y1+1)+1
440 WRTX2-1:CB(X2-1,Y1+1)+1 AND
X2=X2
450 LET Y2=Y2+1:CB(X2,Y2+1)+1
460 WRTY2-1:CB(X2,Y2-1)+1 AND
Y2=Y2
470 LET Y1=Y1+1:CB(X1,Y1+1)+1
480 WRTY1-1:CB(X1,Y1-1)+1 AND
Y1=Y1
490 PRINT X1:GOTO Y100
500 IF (Y2=Y1 AND X2=X1) THEN G
O SUB 1000
510 PRINT AT X1,Y1, INK 3+1:AN
D 10+1:RT X2,Y2:INK 3+1:AN
D 10+1
520 IF X1=X2 AND Y1=Y1 OR X2=X
2 AND Y2=Y1 THEN GO SUB 1000+1000
+1
530 IF X=1 THEN NEXT X
540 IF Y=1 THEN LET Y=2:LET X
=2:LET Y2=Y:LET X2=X:GO TO
500
550 GO TO 500
560 PRINT AT 10,11,CS FOR #=1
TO 5:RANDOMIZE USR CS:GOTO
570
580 LET CB(10,11)=0:PRINT AT
10,11:GOTO 590
590 IF END=1 THEN GO TO 600
600 IF CB(10,11)=0 THEN RETU
RN
610 IF F=0 THEN RETURN
620 PRINT AT 10,11,INK 10+1:
F=F+1:LET CB(10,11)=F+1
630 RETURN
640 IF END=0 AND CB(10,11)=
- THEN PRINT AT X1,Y1, INK 3+1:
WRTX2,Y2:CB(X2,Y2)=
650 IF CB(X2,Y2)= - THEN PRINT
AT X2,Y2, INK 3+1:LET CB(X
2,Y2)=0:RETURN
660 RETURN
1000 PRINT 5:FOR #=1 TO 5:PRI
NT AT 10,11,CS:RANDOMIZE U
SR CS:LET X2=X:FOR #=1 TO 5

```

[illegible]

SPECTRUM PROGRAM

[illegible]

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^aFor each variable, the mean value was calculated from the 100 simulations.

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FIGURE 1.3. PROJECTIONS

1000

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¹ The authors are grateful to the referees for their helpful comments.

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^a *Escherichia coli* O157:H7, available from the Center for Disease Control (CDC), Atlanta, GA.

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100

[illegible][illegible][illegible][illegible]

Fend off the ferocious feline

Koala Kong, a 10-foot-high mean teddy, is playing cat-and-mouse with a distressed damsel.

You must go to the rescue by running along gardens and up ladders, jumping over the gaps. If you miss your footing or run off the end of a garden, you plunge to your death.

You move left and right using the S and D keys. Use C to go up a ladder or jump, depending on whether a ladder is above you or not. And use X to go down a ladder or stay still, depending on whether there's a ladder.

You get 10 points for reaching the damsel, and more points every point if you jump and reach the 10.

From time to time Kong leaps into the air to scare you, and if you see an eye of the top two levels of garden then you will fall off.

If you manage to rescue the damsel that time then there's another level waiting for you — with one point of higher scoring.

How it works

100-170: run, move and also score

200-240: use screen

500: use variables

570-630: Kong jumps

630-670: damsel moves

680-740: you move

750-760: you jump

770-780: you fall

790-810: you fall

820-840: you up next level

850-860: you lose

870-880: you win

890-910: you again or end

When a cuddly kitten turns into a marauding monster, you can't just stand there and let a damsel in distress be turned into cat food. Paul Edwards explains the rescue plan for his strangely familiar game, written for the TI-99/4A plus Extended BASIC



How to compete

There are no limitations of your commands in TI-BASIC, all produced by the most BASIC.

SPRITES are an array of numbers 0-255, each with a color, a height, a width, a speed, a velocity in both columns, velocity in rows.

PALETTE is an array of numbers 0-255, each with a color.

DISPLAY is an array of numbers 0-255, each with a color.

MEMORY is an array of numbers 0-255, each with a color, a velocity in both columns, velocity in rows.

Variables

R: player score

S: player score

PE: player's position on screen

PI: player's position on screen

MD: MD (max) character's top

width and

MD: MD (max) character's top

width and

MD: MD (max) character's top

width and

MD: MD (max) character's top

width and

MD: MD (max) character's top

width and

MD: MD (max) character's top

width and

MD: MD (max) character's top

width and

MD: MD (max) character's top

width and

MD: MD (max) character's top

width and

MD: MD (max) character's top

width and

```
100 CALL CLEAR:PI CALL SCREEN:2
110 FOR Q=0 TO 8:CALL COLOR(Q
+16):NEXT Q
120 PAUSE:200
130 CALL CHAR:96:"181808181C1808
18"
140 CALL CHAR:97:"181808181C1854
B8"
150 CALL CHAR:98:"18181818081818
18"
160 CALL CHAR:99:"18181818081828
44"
170 CALL CHAR:100:"1C1C083E081C1
436"
180 CALL CHAR:101:"000000000000B
BFF"
190 CALL CHAR:104:"243C243C243C2
43C"
200 CALL CHAR:124:"AAAAAA55"
210 CALL CHAR:128:"01030303070F1
F38"
220 CALL CHAR:129:"00C0C0C0E0F0F
8BC"
230 CALL CHAR:130:"373F1F070E0E0
60E"
240 CALL CHAR:131:"E0CFCF8F070706
07"
250 CALL CHAR:136:"1C1C08FF1C1C3
B14"
260 CALL CHAR:137:"08180808"
270 CALL COLOR:9,12,1,10,13,1,12
,5,1,13,14,1,14,8,1
280 CALL VCHAR:22,1,124,32
290 DISPLAY AT(4,13):"1111"
300 DISPLAY AT(7,11):"11111111"
310 DISPLAY AT(10,7):"11111111"
320 DISPLAY AT(13,4):"11111111"
330 DISPLAY AT(16,1):"11111111"
340 DISPLAY AT(19,4):"11111111"
350 CALL VCHAR(4,14,104,3)
360 CALL VCHAR(4,19,104,3)
370 CALL VCHAR(7,12,104,3)
380 CALL VCHAR(7,21,104,3)
390 CALL VCHAR(10,8,104,3)
400 CALL VCHAR(10,14,104,3)
410 CALL VCHAR(10,19,104,3)
420 CALL VCHAR(10,26,104,3)
430 CALL VCHAR(13,5,104,3)
440 CALL VCHAR(13,12,104,3)
```

TI-99/4A PROGRAM

```

450 CALL VCHAR(13,17,104,3)
460 CALL VCHAR(13,29,104,3)
470 CALL VCHAR(16,9,104,3)
480 CALL VCHAR(16,21,104,3)
490 CALL VCHAR(19,15,104,3)
500 CALL VCHAR(19,26,104,3)
510 CALL HCHAR(5,16,120) : CALL
HCHAR(5,17,129) : CALL HCHAR(6,1
6,130) : CALL HCHAR(6,17,131)
520 CALL HCHAR(8,14,137) : CALL
HCHAR(8,20,137) : CALL HCHAR(11,
13,137) : CALL HCHAR(11,22,137)
530 CALL HCHAR(14,8,137) : CALL
HCHAR(14,25,137) : CALL HCHAR(17,
12,137) : CALL HCHAR(17,18,137)
540 CALL HCHAR(20,10,137) : CALL
HCHAR(20,23,137)
550 PR:P=21 : PC=C+1 : M1=98 :
: M2=99 : DC=15 : DD=1 : CCH=
0
560 IF RND>.05 THEN 640
570 CALL HCHAR(5,16,32,2) : CALL
HCHAR(5,16,32,2)
580 CALL HCHAR(4,16,128) : CALL
HCHAR(4,17,129) : CALL HCHAR(5,1
6,130) : CALL HCHAR(5,17,131)
590 CALL HCHAR(4,16,32,2) : CALL
HCHAR(5,16,32,2)
600 CALL HCHAR(5,16,128) : CALL
HCHAR(5,17,129) : CALL HCHAR(6,1
6,130) : CALL HCHAR(6,17,131)
610 CALL SOUND(500,50,110,0)
620 CALL HCHAR(4,16,124,2)
630 IF R=6 OR R=3 THEN 1020
640 CALL HCHAR(R,C,M1) : DISPLAY
AT(1,1) : CORE :=120
650 CALL HCHAR(3,DC,32)
660 DC=DC+DD : IF DC=15 OR DC=1
8 THEN DD=DD
670 CALL HCHAR(3,DC,136)
680 PR=R : PC=C
690 CALL KEY(0,K,S)
700 IF K=83 THEN C=C-1 : M1=96
: M2=97
710 IF K=68 THEN C=C+1 : M1=98
: M2=99
720 IF PR=R AND PC=C AND K<69 A
ND K<88 THEN IF M1=96 THEN C=C-
1 ELSE IF M1=98 THEN C=C+1
730 IF C=0 THEN C=32 ELSE IF C=3
9 THEN C=1
740 CALL GCHAR(P,C,C+0)
750 IF CH=136 THEN 1000 ELSE IF
CH=127 AND CH=132 THEN C=PC : G
OTO 1170
760 CALL HCHAR(PR,PC,CCH)

```

```

770 CCH=CCH : CALL HCHAR(R,C,M2)
780 CALL GCHAR(R+1,C,D) : IF D=3
2 THEN 1020
790 IF K=69 THEN 800 ELSE IF K=8
8 THEN 960 ELSE 560
800 CALL GCHAR(R+1,C,D) : IF D=1
84 THEN 910
810 IF C=3 DP C=29 THEN CCH=32 :
: GOTO 560
820 CALL GCHAR(P+1,C+1,0)
830 IF D=137 THEN SC=SC+1 : CAL
L SOUND(100,800,0) : D=32
840 IF M1=96 THEN CALL GCHAR(P,C
+2,E) : CALL HCHAR(R,C,32) : CAL
L HCHAR(P+1,C+1,M2) : CALL HCHAR
(R+1,C+1,D) : CALL HCHAR(P,C+2,M
1) : C=C+2
850 CALL GCHAR(P+1,C+1,0)
860 IF D=137 THEN SC=SC+1 : CAL

```



```

L SOUND(100,800,0) : D=32
870 IF M1=98 THEN CALL GCHAR(P,C
+2,E) : CALL HCHAR(R,C,32) : CAL
L HCHAR(R+1,C+1,M2) : CALL HCHAR
(R+1,C+1,D) : CALL HCHAR(R,C+2,M
2) : C=C+2
880 CCH=C
890 CALL GCHAR(R+1,C,D) : IF D=3
2 THEN 1020
900 GOTO 560
910 FOR PR=P TO R-2 STEP -1
920 CALL HCHAR(PR,C,104) : CALL
HCHAR(RR+1,C,100)
930 NEXT PR
940 R=R-3 : CCH=32
950 GOTO 560
960 CALL GCHAR(P+1,C,0)
970 IF D<104 THEN CCH=32 : GOTO

```

TI-99/4A PROGRAM

```

D 560
980 CALL HCHAR:P,C,320
990 FOR RR=R+1 TO R+3 : CALL HC
HAR ORR,C,100 : CALL HCHAR ORR,C,
1040 : NEXT RR
1000 R=R+3 : CCH=104
1010 GOTO 560
1020 CALL HCHAR(R,C,32)
1030 CALL SPRITE (R1,R1,12,R+6,C)
8-8,10,0)
1040 CALL POSITION(R1,Y,X) : IF
Y<160 THEN 1040
1050 CALL MOTION(R1,0,0) : CALL
PATTERN(R1,101)
1060 FOR Q=400 TO 200 STEP -10 :
: CALL SOUND(-100,0,0) : NEXT Q
1070 GOTO 1190
1080 FOR Q=200 TO 400 STEP 10 :
CALL SOUND(-100,0,0) : NEXT Q
1090 SC=SC+10
1100 Y=INT(RND*13)+9 : X=INT(RND

```

```

B=32)+1 : CALL GCHAR(Y,X,D) : I
F D<124 THEN 1100
1110 CALL HCHAR(Y,X,32)
1120 FOR Q=1 TO 500 : NEXT Q
1130 CALL HCHAR(P,PC,32)
1140 CCH=32
1150 CALL DELSPRITE(R1)
1160 GOTO 520
1170 FOR Q=400 TO 200 STEP -10 :
: CALL SOUND(-100,0,0) : NEXT Q
1180 DISPLAY AT(2,1) "HARD LUCK,
YOU LOSE !!!"
1190 DISPLAY AT(24,1) "PLAY AGAI
N ? (Y/N)"
1200 CALL KEY(0,0,0)
1210 IF K=89 THEN SC=0 : CALL D
ELSPRITE(R1) : CALL CLEAR : GOTO
250 ELSE IF K=79 THEN 1220 ELSE
1220 CALL CLEAR : END

```

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IMPACT RATING		2000-2001	
IMPACT RATING		2000-2001	
IMPACT RATING		2000-2001	

Figure 1 consists of four bar charts arranged in a 2x2 grid, labeled (a) through (d). Each chart shows the percentage of respondents for five levels of agreement: 'Strongly disagree', 'Disagree', 'Neutral', 'Agree', and 'Strongly agree'. The y-axis for all charts ranges from 0 to 100 percent. The x-axis for all charts is 'Level of agreement'.

- (a) **Overall**: Shows the distribution for the entire sample. The 'Agree' bar is the highest, followed by 'Strongly agree'.
- (b) **Female**: Shows the distribution for female respondents. The 'Agree' bar is the highest, followed by 'Strongly agree'.
- (c) **Male**: Shows the distribution for male respondents. The 'Agree' bar is the highest, followed by 'Strongly agree'.
- (d) **Age 18-29**: Shows the distribution for respondents aged 18-29. The 'Agree' bar is the highest, followed by 'Strongly agree'.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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2

MIKRO-GEN

Two
great games
from Sierra
Newcomer's

The chart-busting

Mad Martha



Four girls Henry is the youngest son of three daughters only. One daughter lives in the city and the other two daughters live in the country. He always has a good time with his friends and is very popular with the girls. He is a very good student and is very smart. He is a very good person and is very kind. He is a very good friend and is very loyal. He is a very good person and is very kind. He is a very good friend and is very loyal. He is a very good person and is very kind. He is a very good friend and is very loyal.

and the others in the group are looking at the map. The map is a map of the area around the school. The map is a map of the area around the school. The map is a map of the area around the school.

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Algebraically closed fields Every maximal ideal of the polynomial ring over a field k is prime. In fact, the quotient of the polynomial ring by a maximal ideal is a field. If k is algebraically closed, then every maximal ideal is of the form $(x - a)$ for some $a \in k$.

Marvellous adventures, really dirty
is replacing phage host cells in the
epitaxial program described.

Received 12 November 2003; accepted 12 November 2003

1000

Mad Martha II



There are five general findings and theories concerning the rapid loss of hippocampal neurons after an I stroke. It is possible that all of these theories are correct.

One afternoon, Marlene went into a bar and took her son, young Ferdinand, leaving Robert for Manuel to take care of. He called Ferdinand to Marlene, crying, "Daddy!" but a Spanish priest, who had planned a winter confession, then appeared the next morning with some trade and Manuel took a little money, at last, at his bank. The priest went away on his way to the altar and said, "I'm making a mistake, taking in someone who's a thief, a bad liar, in whom you have to have to play the leading role." Continued laughs and then the end of the festival.



1999

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Journal compilation © 2006 Blackwell Publishing Ltd

- **Full adaptive format** – accepts multiple commands at once, e.g. in plain English
- **WFF, intelligent replies to commands** • **Full text editor for programs**
 - Easy-to-use is full screen, high-res, colour graphics
- **Three working window-type games as an integral part of the program**
 - **Full help facility and user manual**

Small site from which traffic is directed to the main site.

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HAVE YOU BEEN INVOLVED IN A MYSTERIOUS ADVENTURE RECENTLY?

If so, it is quite possible that you are presently suffering from T.S.A. (Temporary Syndrome of Active Involvement in Adventures).

T.S.A. manifests itself as a series of events, one of the most obvious symptoms being a person's complete inability to fit in with the world of reality. Other symptoms include freedom from the constraints of a Mysterious Adventure, an overwhelming sense of involvement.

Excess belief that this is usually contracted as a result of involvement in a Mysterious Adventure, or of involvement by chance. Any of the following Home Computers:

ALL SPECTRUM AND MODEL 5.0 + 5, TRICO, COLOUR GEMIE, ATARI 400/600, COMPTON PAK, ORACLE, IBM 2001, UNIK etc.

When questioned about this incident, a representative of DIGITAL FANTASIA, a company who are actively involved in research and development work on Mysterious Adventures, said, "There is probably no cure for T.S.A. other than trains, buses, faulty light chaps etc. which can be at best only a temporary solution". In the absence of a more permanent cure, I would advise T.S.A. sufferers to submit to the Syndrome and obtain Mysterious Adventures from all sources available to them. "T.S.A. is highly contagious and is one of the current Worldwide Epidemics. I would say enjoy it while you can, resistance is futile".

If you have a BBC Computer or a TRICO SPECTRUM, you can obtain Mysterious Adventures direct from DIGITAL FANTASIA (a copy of the following is sent):

- 1) THE GOLDEN LAYON
- 2) THE TIME MACHINE
- 3) LAW OF DEATH (PART 1)
- 4) LAW OF DEATH (PART 2)

- 5) THE USE OF MATHS (PART 1)
- 6) CIRCUS
- 7) FREEDOM EXPERIMENT

- 8) THE WIZARD OF OZ
- 9) THE GARDEN AND THE GARDEN
- 10) THE LITTLE INDIANS

2000 Users will receive a copy of WALT and Postage. Elsewhere, 1000 Users will receive a copy of WALT and Postage.

COMPANIES WHO DO NOT HAVE WRITERS OF ADVENTURES CAN SERIOUSLY DAMAGE THEIR SENSE OF REALITY.



SEND CHEQUE OR P.O. TO:

**DIGITAL
FANTASIA**

CHECK

ATARI 400/800 PROGRAM

[illegible]

```

3040 IF J5=14 THEN G19=27
3050 IF J5=11 THEN G19=4
3060 IF J5=7 THEN G19=1
3070 GOTO 3080
3075 FOR K=1 TO INT(RND*(50-1)+27
3080 IF R$(K)=R1R,R=R1R+" " THEN 3090
3090 IF R$(K)=R1R,R=R1R+"?" THEN 3090
3100 IF R$(K)=R1R,R=R1R+"!" THEN 3090
3110 R1R=R1R+R$(K)IF R1R<37337 OR R1R<R
440 THEN 3120
3115 NEXT K
3120 POSITION 2,19:" @;"NOTHING HAS BE
"FOR K=1 TO 50:NEXT K
3130 POSITION 2,19:" @;"
:RETURN
3095 IF R0 THEN 3090
3215 POSITION 2,19:" @;"HIT A MINEOUS
"FOR K=1 TO 50:NEXT K
3230 POSITION 2,19:" @;"
:RETURN
3270 FOR R0 THEN 3280
3215 POSITION 2,19:" @;"HIT A MINEOUS NO
MSTER"R$(K)=R1R+R1R+" "
3240 FOR K=1 TO 50:NEXT KPOSITION 2,19
:" @;"
3250 IF RND*(50-1)+4 THEN 3260
3260 GOTO 3270
3270 POSITION 2,19:" @;"BEST IS DEAD"
FOR K=1 TO 50:NEXT KPOSITION 2,19:" @;"
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3390 POSITION 1,19:" @;"YOU HIT THE BUL
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3400 SOUND 9,200,12,18:FOR E=1 TO 20:NEXT
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3410 POSITION 1,19:" @;"YOU HIT THE BUL
LET"
3420 POSITION 1,19:" @;"YOU HIT THE BUL
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3430 NEXT R1:SOUND 6,6,6,6
3470 GOTO 3040
3700 IF R1R<37337-1 OR R1R<49 THEN
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3710 R$(K)=R1R,R=R1R+" " :POSITION 2,19:"
@;"HIT A MINE"FOR K=1 TO 15:SOUND 6,1
50,6,12,18:FOR E=1 TO 10:NEXT E
3720 SOUND 1,200,6,18,15:K=INT(RND*(50
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:GOTO 300
3800 POSITION 2,21:" @;"
3810 FOR K=1 TO 35
3820 POSITION 2,21:" @;"YOU WENT SOUND
6,150,12,18:FOR E=1 TO 20:NEXT E
3830 SOUND 6,100,6,18:POSITION 2,21:" @;"
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ATAPI 400/800 PROGRAM

[illegible][illegible]

Computerised classics

Our review panel takes a look at some traditional games that have had the computer treatment

Yahtzee/ Knight's Move Oric 1 £4.95

HTL Software, Lamb Street
Sunderland, Durham

These two will require frantic games involving a few chess-like, aggressive, good value for their price.

Both programs loaded rapidly and without any problems. In comparison a novel load time, but only you in case of difficulty.

Also impressive was the speed of HTL, both at the start of both programs.

Yahtzee is the standard dice game for many night players, in which the aim is to be the first to achieve a set of the complete runs.

The program does everything

for you, showing the dice results and providing you with an accurate reminder of the combinations you need, and the possibilities in your throws. Knight's Move is a board game for up to five players. The object is to reach your start or finish of a long race with the chess pieces, movements of the game that only is the number of spaces taken important, but also the cost taken.

It also requires the thinking and calculation a few chess players find hard, but the speed and added playability makes the appeal of the game is high.

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Pinball/Cubits T1-95/4A (Extended BASIC) £6

Edward Games, 14 Blywood,
Blywood, Telford, Shropshire
TF1 1LT

Pinball is an old arcade favourite and the version is a faithful reproduction for the T1.

Those balls are provided for each game, the object being to score the greatest high score. For each 1,000 points scored, an extra ball is supplied.

The only real criticism is the lack of keys 1 and 2 in control of the game. This is a pity.

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would be a better design. Cubits is a game for two players in which 10 sets of 15 covered dice are arranged across the screen. Each player in turn selects one die to uncover with the purpose of reaching the target.

If a match is made, 10 points are awarded and the player has an extra turn. There are 100 points in all, which each player has to reach.

The game ends when all 10 sets of dice are uncovered. The player with the highest score wins.

The game is well worth trying and has good graphics, but even so, the graphics are not as good as those of the other games.

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Cricket/Darts 4K Spectrum £4.95

Cambridge Microcomputer Centre, 111-113 Elm Road, Cambridge

Neither of these games will take the brain of any one over the age of 10.

Cricket is a very easy to play and fun game, and the graphics are very good.

The game is very easy to play and fun, and the graphics are very good.

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cricket is the faster and the darts is the more strategic.

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Reversi Dragon £4.95

Dr. Dragon, 111-113 Elm Road, Cambridge

Another implementation of the board game Reversi, Dragon is a very easy to play and fun game.

The game is very easy to play and fun, and the graphics are very good.

Both programs are very easy to use.

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Reversi is a board game for two players in which the aim is to be the first to achieve a set of the complete runs.

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SKI RUN



SKI RUN
All the excitement and skill of the original ski jumper, now with a computer screen. You'll enjoy the challenge of the game and the speed of the action. It's a great game for all ages.

Boom Software

It will blow your mind

LOGGER MANIA



LOGGER MANIA
A fast-paced action game. You'll enjoy the challenge of the game and the speed of the action. It's a great game for all ages.

SPACE RAIDER



SPACE RAIDER
A fast-paced action game. You'll enjoy the challenge of the game and the speed of the action. It's a great game for all ages.

ANIMATOR



ANIMATOR
A fast-paced action game. You'll enjoy the challenge of the game and the speed of the action. It's a great game for all ages.

Post this coupon now to Boom Software
2-4 Chichester Road, Chichester, London W2A 1EG

Please send me the following:

Ski Run
Logger Mania
Animator
Total cheque/PO enclosed £

£5.95
£5.95
£5.95
£17.85

AmigaSoft
AmigaSoft
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£5.95
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£17.85

Name

Address

Commodore 64
and VIC20

2001 PROGRAM

How to get cross with your ZX81

My program displays a board and the moves for two players: pawns, knights, and rooks. I have used the graphics of the ZNI to produce large attractive displays, which makes the program in

Special! Free water call & fax, please
return card!

- The size of the whole is used to draw the board;
- The coordinate encoding, using lines 233 and 234;
- The use of `dirup`, `dirleft`, `dirright` and `dirdown` to move the token;
- The use of flag `isendgame` to determine which player goes; in Line 278 which effectively changes `G` to `L` or `L` to `G` depending on its present value;
- Line 280 which calculates the position in row and simple horizontal and vertical `G` or `L` using Boolean logic. This uses `row` and `col`.

When the 1994 census data were analyzed, the program was 60% effective in 1994 and 54% in 1995. It was also found that the program was more effective in the urban areas than in the rural areas.

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This program can be converted easily for the Spectrum. In fact, the only line which needs changing is on line 253 where the CODE of C101 needs - 17 to increment to the address of CAP101. OK, I would of course use the code number of the figure and Spectrum channels -149, 150, 151, 152.

Of course, using cotton and wool will improve a swimmer's comfort to **COMFORT** when Alan Ralston may need stirring on the bottom legs, and the flags probably won't. It is most of 1. Again, even that the question whether swimmer are fairly easy to read.

There are some neat programming techniques in this version of the old favourite, Noughts and Crosses, written for the ZX81, plus RAMpack, by Simon Matthews

PRESS. MAY BEY FOR A TIME OF.

NOUGHTS CROSSES

Dr. P. MATTHEWA

Abstract The authors examined the effects of a 12-week, 100% body weight (BW) resistance training program on the body composition and muscle strength of 10 sedentary, middle-aged men. The men were randomly assigned to either a control group (CON) or a resistance training group (RT). The RT group performed a 12-week, 100% BW resistance training program, while the CON group remained sedentary. The RT group showed significant increases in muscle strength and body composition, while the CON group showed no significant changes. The results suggest that a 12-week, 100% BW resistance training program can improve muscle strength and body composition in sedentary, middle-aged men.

1000

[illegible][illegible]

4. number of sons by A
 5. number of sons by B
 6. number of sons by C
 4.1.3.3 compare board to check
 valid moves
 4. (Fig. 1) 9 sons, 8 - 11 sons
 4.1.3.4 process input
 4.1.3.5 increase position of 9 son 11
 4.1.3.6 write all positions of 9 son 11
 4.1.3.7 write input
 4.1.3.8 write 9 son 11 son

Reverb characters are, but I
STAGE ONE PRODUCTIONS
TRING AND PRESS RE-
PRODUCTION FOR THE
RECORDER AND PRESS
AND KEY TO CONTROL
STAGE TWO MAINS
DISPLAY 248 STAGE
THREE MAIN PROGRAM
NATIVE AND STAGE FOUR
SCOREBOARD AND THE N
FILE 15 400 and 700 10 years of
printing that and less than you
can see.

[illegible]

¹ <http://www.irs.gov/efile>

	A	B	C
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2	0	1	0
3	0	0	1

81	PWENT	-								
82	PWENT	-								
83	PWENT	-								
84	PWENT	-								
85	PWENT	-								

ZX81 PROGRAM

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07 PRINT AT 00.0: "BY S.P.HATTH
END
08 PRINT

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09 IF INKEYS="" THEN GOTO 24
10 S=0
11 INPUT "ENTER CO-ORDINATES
LETTER (A-Z) THEN THE NUMBER (0-9)
ENTERED WITH A COMMA, E.G. "A,1"
ON 1 GOTO 24
IF SOMEONE USES DA T
T IS A SCAL TYPE ON LATOR-- AND
THE GAME WILL END AND SCORE
IS 0700-0.0.

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OK?

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12 GOTO 24
13 PRINT
14 PRINT AT 00.0: "PRESS ANY KE
Y TO START"
15 IF INKEYS="" THEN GOTO 03
16 CLS
17 GOTO 1000

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000 PRINT AT 1.1: "DOORBOARD-
001 PRINT AT 0.1: "GAMES WON BY
HOUGHTS"
002 PRINT AT 7.1: "GAMES WON BY
CROOKS"
003 PRINT AT 0.1: "GAMES DRAWN"
004 PRINT AT 00.1: "PRESS ANY KE
Y TO RESTART GAME"
005 IF INKEYS="" THEN GOTO 070
006 GOTO 04
007 PRINT AT 4.0: "WHO WILL STAR
T"
008 LET 0=INKEYS
009 IF 0<"X" THEN GOTO 04
010 LET 0=0
011 IF 0="X" THEN LET 0=1
012 IF 0="X" THEN LET 0=1
013 CLS
014 RETURN
015 STOP
016 END "HOUGHTS"
017 RUN

```

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	t-test, t-statistics and correlation coefficient				
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First-aid for TI BURNERS

As a TI writer, Mr. Bates (MCW 76) has my deepest sympathy. I experienced the same problem in my room when I first bought my TI.

Luckily, I discovered *Citizens Video* in Madison, where the main clerk at the store, all the books published, and even the *TV*.

They also make a wide selection of software both from Texas and independent inventors. They have a master's shelf, which produces a quarterly printed and pouch-top list for a mother.

They also produce a small but useful catalogue, and you can hire the 1990 model for \$250 a day.

Secondly, I joined the International Data Group, which is based in Dallas, Oklahoma. They produce no estimate at all of aggregate inflation by 1970, and all over the world!

The code problem is, you would find yourself having to pay import duty and VAT if you buy items in any quantity. Alternatively, you can buy business. We will advise.

His Rovers might also have been containing themselves. However, who are in the area. They produce a responsible amount of T1 network of data.

But the industry isn't whole, it would say it, plus, even now, the T1-80-44 economy is far superior to the Sprinters and Dragons, and I'm sure that when the new T1-80-44 hits the shops, it will leave the British machines in the dust.

10. **Marketing Research**

We'll represent the Spectrum owner

We have noticed recently, in several of the computer magazines, letters claiming that there is a shortage of mail groups for Usenet users. Apparently, these users are not aware of our own group which has members around the world.

THORP was placed on a roster of the members of the Farmers, and accepted his usual \$25.00 fee.

We would like to suggest that, until someone can find a better way, we should stop recommending it. All that is needed is a letter to us at the above address — a sample of the reply would be appreciated, sent to S.A. 22 — the following individuals plus an envelope, please.

Send your letter to Letters, Home Computing Weekly, 145 Charing Cross Road, London WC2H 0EE. Don't forget to name your computer — the best letter could win £5-worth of software. Queries cannot be answered on this page.



The national organizations have both expressed surprise and appreciation at Geller's letter. Ed Rubin, deputy director of the Transportation

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Minesweep by Joseph

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 (not consecutive) For the 1987-88
 season (week-end period is 10-11)
 1987-88 season (week-end)

Remove lens, 28 and 29,
and replace them with the
following:

11. PbCl_2 and PbBr_2 are both insoluble in water. PbCl_2 has $K_{sp} = 1.7 \times 10^{-5}$ and PbBr_2 has $K_{sp} = 4.1 \times 10^{-5}$. If 0.10 M Pb^{2+} is present, what is the concentration of Cl^- ions when PbBr_2 begins to precipitate?

11. $A = \begin{pmatrix} 1 & 2 \\ 3 & 4 \end{pmatrix}$
 $B = \begin{pmatrix} 4 & 3 \\ 2 & 1 \end{pmatrix}$

20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044 1045 1046 1047 1048 1049 1050

THERM D = 0
28 TGA AND Bx=0
THERM D = 0

**I'm a satisfied
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As a regular reader of your magazine since its inception, I have enjoyed a lot of letters discussing breakfast at state manufacturers. And as an Ohio owner, the letter from Keith Collins (11/17/94) caught my attention particularly.

Aditya J. Sengupta, India's Chief of
Cyber Security and Digital Policy, has an
M.Sc. in IT.

I received my first Dilya in March. The machine suffered from the well-known early Dilya problems: headlight issues with sound, poor volume, etc.

I received a replacement machine after only one hour of time — and not only a machine, but two different ones, a new 1000 Series, as

Cooperativas del Valle Occidental

For example, after it joins the top-10 nations now developed in South Germany, Ohio as a state emphasizing the products, it was produced a top-10 nation. The more business-related these regulations, they have again with a little "start" by way of some more ideas.

I have always been treated courteously and promptly by the staff at Elio, and would like through your columns to thank Oxy and particularly Miss Minka Hughes for an excellent service.

Chip on the shoulder

I decided to wait for you after reading about the new U.S. flag. Gladly has put up the "Patriot's Prayer" (10/1/94)

I own a variety of Spectrum and a Granddaddy TV, and you can get them all my problem is — you guys've got it, they're gonna watch it.

There is something that was really printed out of pattern and purchased. The only way I can get a colour screen display for my television is to buy it, and there's a new TV.

I think, it would be better of Microsoft to offer these 2 services with their products in one package ship — I would would even be prepared to pay a little more for that.

Clearly this problem could have been avoided by following the formula of Series C. After all, isn't this the one industry there would be a need with no change to the customer? Mind you, by Shoenet's delivery standards, that would also be true.

I'm a computer-aided designer, and I've sold my car and bought two PCs at a cost of at least \$110 each. To test, it seems like another case of taking the money and run, and I would probably like to nominate Bush for a computer law suit.

[illegible]

Best thing!

O.K., you guys? So you think you're good? I challenge you to beat my friend David Walker's score of 100-000 on *Imagination Nation's* *Brainiac*!

Read that all you can in the month before every meeting, using *Chromosomes* 141 by David Lee "Whitell" Thompson!

William C. Overholser, Director
William C. Overholser, Director

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Top Ten programs for the Spectrum

- | | | |
|----|-----------------------|----------------------|
| 1 | Scrabble | Pyon (2) |
| 2 | The Wizard | Melbourne House (2) |
| 3 | Jet Pac | Ultimate (1) |
| 4 | Flight Simulation | Polin (4) |
| 5 | Horizon and the Spies | Polin/M. House (6) |
| 6 | Track Aim | Ultimate (5) |
| 7 | All Diskdome | Imagine (5) |
| 8 | Super Soccer | Richard Shepherd (—) |
| 9 | Horizon Goes (Shine) | Polin/M. House (12) |
| 10 | 3D Desert Patrol | Computer Rentals (—) |

Compiled by R. H. Smith. Figures in brackets are last week's positions

Top Ten programs for the ZX81

- | | | |
|----|-------------------|---------------|
| 1 | Flight Simulation | Strider (2) |
| 2 | Football Manager | Audience (4) |
| 3 | Space Raiders | Strider (2) |
| 4 | Shoe of Doom | Strider (10) |
| 5 | Scrabble | Quintiles (6) |
| 6 | Asteroids | Strider (7) |
| 7 | Chess | Strider (1) |
| 8 | Espresso Island | Strider (8) |
| 9 | Defender | Quintiles (3) |
| 10 | Invaders | Quintiles (—) |

Compiled by Smith. Figures in brackets are last week's positions

Top Ten programs for the Dragon

- | | | |
|----|-------------------|----------------|
| 1 | Frogger | Microdeal (2) |
| 2 | The King | Microdeal (1) |
| 3 | Shuttle | Microdeal (—) |
| 4 | Arch and Attack | Microdeal (2) |
| 5 | Space War | Microdeal (4) |
| 6 | Ring of Darkness | Watersoft (8) |
| 7 | Nightflight | Salamanca (6) |
| 8 | Centaurus | Salamanca (—) |
| 9 | Monaco Grand Prix | Microdeal (5) |
| 10 | Dragon Trek | Watersoft (10) |

Compiled by Smith. Figures in brackets are last week's positions

Top Ten programs for the VIC-20

- | | | |
|----|---------------|---------------|
| 1 | Arcadia | Imagine (1) |
| 2 | Centaurus | Llunawoft (7) |
| 3 | Wacky Writers | Imagine (2) |
| 4 | Dayhawk | Quintiles (3) |
| 5 | Panic | Big Byte (10) |
| 6 | Mama | Llunawoft (—) |
| 7 | Cajita Search | Imagine (5) |
| 8 | Cosmic Coach | Commodore (8) |
| 9 | Frankie | Imagine (9) |
| 10 | Asteroids | Big Byte (—) |

Compiled by Smith. Figures in brackets are last week's positions

U.S. SCENE

Zap 'em up while you learn typing

One of the best programs available that can be used to teach your how to type is called *Typing Tutor*, by Microsoft. When I got my Apple, I went in to teach myself typing — I might never be bothered with a conventional typewriter — and within a month or so learned 40 words per minute with high accuracy.

The nice thing about *Typing Tutor* is that it is customized for the particular machine on which the program runs. Unfortunately, this program is not available for most of the low cost micro computers on the market.

Now there is such a program. It is called *Master Type*, and is marketed by Lightning Software, of Palo Alto, California. Customized with *Typing Tutor*, which is basically a series of drills, *Master Type* is as much a white game as it is a learning program. It comes in the guise of a space-land/space-land game. The program is very simple to use.

You must hit the correct keys to move your space craft, avoid its being hit, and to shoot at the asteroids. During the game, words and meanings flash on the screen to help you learn the keyboard and improve your typing skills.

Although I suppose it could be used in the office as a session refresher and that improvement aid, let's discuss clearly meant to be for the primary marketing target. The author is an ex-teacher who remembered how hard it was to get kids to pay attention in order to learn. In this format, such attention is not a goal.

Even though the first version was written for the Apple, the program is now available for the Atari 800 series, the IBM PC, and will soon be available as a version for the PC-10 to be distributed through Underbrush Software, of San Jose, California.

The program starts out in a conventional manner, teaching the "home" row keys, and for the left hand then the right. Once the student is fairly successful, the game becomes more complex. Included in the program is a 30,000 word dictionary which allows the program to determine and replace spelling mistakes in a 10 x 10 light or solid. Of course though, the intended game has no fundamental principle. As the student type or lose the game.

When the student becomes a master of the keyboard, the program begins to teach elements of programming in BASIC. The author of the program felt that since BASIC requires much more effort and concentration than "type" learning how to type, this was best left last. Thus the program follows a very sound principle of education: proceeding from the simple to the complex.

Does it work? Apparently it does. Parents of children as young as five have written the company unsolicited letters reporting that their children love and the program successfully runs through the five levels that a more typical typing site is likely to do in the next six months. The more complex and demanding are designed so that parents need only spend a few minutes with their children to get them started.

The price has not been announced for the VIC-20 version. However, one should be able to find out through any store that sells the Underbrush line. I am sure it will be well worth it.

★★★★★

Just contact a home computer software store becoming a dealer nationwide, or in the marketplace.

For example, Texas Instruments and Imagine have agreed on a long term cooperative plan to develop educational and entertainment software for the TI 99/4A. This should result in a host of new products in the first year including the popular *Simon* Atari, *Microsurfer*, *Parsons*, and *Flap! 47* these games will use voice synthesis, developed by TI.

That's it for this week. See you next time.

Bob Lee

Fairfield, California

With the launch of the latest Sinclair product, home video entertainment has entered a full-on era. It started with the video games machine which threatened to turn many lapsed into games addicts.

Now come the home computer. Although mainly used for playing games, they could be justified as being educational, and having some 'serious' uses such as home finance control and keeping records.

But now you can have the ZX Interface 2 which will turn your Spectrum computer into — a video games machine!

This interface provides your Spectrum with two extra facilities, a port for plug-in ROMs cartridges, and sockets for two joysticks.

Joysticks are not included in

Interface 2: what price instant loading?

David Nowotnik tried out the latest addition to the Sinclair stable



Close up of the Interface 2 — that edge connector might cause some life in the long run

the £19.99 price tag of the interface, so you will need to get into synch with the standard 1 pin D-Plug (e.g. Atari) to complete the system.

The Interface 2 makes a most unattractive addition to your Spectrum. When the odd shaped box is plugged into the rear port of the Spectrum, or the expansion port of the ZX Interface 1, a protrusion from one side of the back of the computer spoiling the otherwise sleek lines of the Spectrum.

On top of the interface are the two Discotek for your joystick, and a hinged flap which hides the ROM card edge port.

At the back of the interface is an edge connector to which only the ZX protos may be connected. All other peripheral devices must be connected between the Spectrum and the ZX Interface 2.

While joysticks should need no introduction to most games players, plug-in ROMs may be unfamiliar to many Spectrum owners. The idea is to allow pro-

grams to be 'instantly' loaded in to most computers.

All you have to do is plug the ROM cartridge containing the programme into the socket at the top of the interface. This must be done with the power to the Spectrum disconnected otherwise the computer may be damaged. Once the Spectrum is powered up, the programme starts immediately.

There is one further advantage to MSX Spectrum owners. Using the interface, programs which were 48K only in the computer version will run on the 64K Spectrum as the cartridge version.

One thing is apparent when the ZX Interface 2 is plugged into the back of the Spectrum — a softener from the otherwise 'Sinclair webbed' that allows the ZX81 plus RAM pack.

Unlike the ZX Interface 1, Interface 2 is not locked into position. The edge connector at the back of the Spectrum is the only disadvantage in place, as the interface is not suitable if locked, or the Spectrum is moved.

In the interests of good reviews, I lifted and gently shook the computer and interface while a program was in operation. There was no crash, and the program and joystick continued to work.

However, I remember loading a similar (and on the ZX81 and RAM pack) which are connected in a similar way. When done, it also passed that test, but after a few months of use I had no end of trouble with 'white-outs' (a system crash, resulting from an intermittent break in the connection between the computer and peripheral).

Will the ZX Interface 2 suffer from the same fate? Of course, time will tell, but the Spectrum edge connector is not much improved over that of the ZX81, so it might wear in the same way.

Sinclair Research is launching 10 plug-in games ROMs with the ZX Interface 2. These will cost £14.99 each, compare that with the £1-£2 price of the same games

on cassette and you'll realize that instant loading will be expensive.

Sinclair promises to expand the range quite quickly, with application programs (e.g. word processing) also joining the range.

One exciting prospect for future developments is the introduction of alternative programming languages (e.g. plug-in cartridge 1 understood that PASCAL and Fortran may be available soon).

The ROM cartridge, in common with most Sinclair products, are quite small. They measure 2 in by 1 in by 1/4 in by 1/4 in and are black in colour. There is a red flexible band which protects the cartridge edge connector, and looks like the skin of a horse-shoe!

Plugging in the cartridge can be quite tricky. Even after some practice I found a stiff work several times to get the cartridge edge connector in the right place over the socket.

However, once in place, the program worked perfectly every time.

The instructions are clear and concise, ensuring that the interface is easy to install and use. All-in-all is a most commendable effort which will encourage programmers to work in incorporate routines for joystick into their own programs.

While many games players will want this interface for its portability, looking at the price of the ROMs, up to three times the cost of the same program on cassette, will deter many Spectrum owners. The prototype programmer should also consider the likely reliability of the interface — over a strong point of brand new Sinclair products.



The Interface 2 plugged into the Spectrum 1. Note sockets, shows about the shape

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